GOVERNMENT CO.ED POLYTECHNIC RAIPUR (C.G)

DEPARTMENT OF ELECTRICAL ENGINEERING

LESSON PLAN

Session: April-May

Session start as per university calendar:

Course Name: Digital Electronics

Name of Subject Teacher: Abhijeet Yadav

Lecturer plan L+T+P = 5

Course code: 2000451(025)

Discipline: EE | **Semester: 4th** | **Class room Instruction Start Date:**

S.No.	Chapter No.	Topics	Sub Topic to be covered under this unit	Total hours	No. of periods planned	Actual No of periods taken	Date of Class Conduction	Use of AV resources if any	Remarks if any
1	1	**Number System & Codes**	Comparison of digital and analog systems	17	1	1	03/2/25	NA	
			Number Systems: Binary Decimal, Octal and Hexadecimal and their conversions		4	4	04/2/25, 05/2/25, 06/2/25 12/2/25		
			Binary Addition Subtraction Multiplication and Division		5	5	12/2/25, 13/2/25, 15/2/25 (2) 17/2/25		
			1's and 2'scomplement of a number, Basic arithmetic		4	4	18/2/25, 19/2/25 (2), 20/2/25		
			Different types of codes: 8421 BCD, Excess-3, Gray codes, ASCII		3	4	22/02/25 (2), 25/02/25, 27/02/25		
2	2	**Logic Gates & Boolean Algebra**	Boolean algebra: Laws of Boolean algebra and DeMorgan's theorem	12	2	2	01/03/25	YES	
			Types of logic gates: AND, OR and NOT. Universal Gates: NAND, NOR, EX-OR and EX-NOR.		3	3	04/3/25, 05/3/25 (2)		
			Max - term, Min - term, Sum of product (SOP) and Product of Sum (POS) form		3	1	6/3/25,		

			Simplification of Boolean functions using laws and theorems.		2	1	10/3/25	
			Simplification of Boolean functions using K- map		2	1	11/3/25	
3	3	**Combinational Circuits**	Half Adder, Full Adder, Half subtractor, Full subtractor, parallel adder and subtractor, BCD adder	16	7	7	12/3/25 (2), 17/3/25 18/3/25, 24/3/25 26/3/25 (2)	YES
			Magnitude comparator (2 and 3 bit). IC 7485		3	2	01/4/25, 02/4/25	
			Encoders: 4- Input and 2-Output encoder, Octal to Binary and Binary to BCD Encoder MUX IC		2	1	03/4/25	
			Decoders: 3-Line to 8-Line Decoder,BCD to Decimal Decoder.		4	3	04/4/25 (2) 05/4/25	
4	4	**Sequential Circuits**	Flip Flop - basic flip flop and latch, RS F/F, JK F/F, D F/F, T F/F	14	5	4	8/4/25 9/4/25 (2) 11/4/25	NA
			Race around condition, Master-Slave JK flip flop		4	3	12/4/25, 15/4/25 16/4/25	
			UP-DOWN counter (2 to 3 bit), IC7490		3	2	16/4/25, 17/4/25	
			Universal Shift Registers, IC 74194		2	2	21/4/25, 22/4/25	
5	5	**Converters & Memories**	D to A converters: weighted resistor, R-2R Ladder N/W	15	4	4	23/4/25 (2) 24/4/25 29/4/25	NA
			A to D converters: Successive approximation, Single and Dual slope converters		5	4	30/4/25 01/5/25 07/5/25 (2)	
			RAM ROM, EEPROM, UVEPROM, Static RAM, Dynamic		6	5	13/5/25 14/5/25 (2) 15/5/25 (2)	
			74 Hours					